Community Interest Group Meeting
July 14, 1999

ATTENDEES:
Larry Bissett, FETC
Vicki Harbaugh, FETC
Larry Headley, FETC
Lisa Hollingwsorth, FETC
John Kovach, FETC
Ron Kyle, Monongalia County Office of Emergency Management
Ann Levine, Oakview Property Owners' Association
Betty McClain, City Council
Randy Moore, EG&G Technical Services of WV
Mark Reasor, Suncrest Neighborhood Association
Peter Rosati, Sr., Suncrest Neighborhood Association
Frank Saus, Suncrest Neighborhood Association
Larry Schwab, Suncrest Neighborhood Association

AGENDA:
PDU and Trucking Update
"Educators in the Workplace" Summary
General Summary of Responses to Schwab/Saus PDU Questions
Open Forum
Develop Next Agenda

UPDATE ON PROCESS DEVELOPMENT UNIT (PDU) CONSTRUCTION AND TRANSPORTATION OF CHEMICALS

- PDU construction is approaching 97% complete, up slightly since the April CIG meeting. The construction pace will remain slow for the rest of this fiscal year (10/98 thru 9/99) due to budget and manpower limitations, but will pick up again this fall with new fiscal year funding.

- Administrative work to prepare for the operational safety review required by DOE for all projects is proceeding. The safety review and initial operator training will most likely occur next winter and must be completed before any operations are conducted. Initial shakedown operations are projected to begin next spring (year 2000).

- There will be no sulfuric acid or caustic soda truck deliveries this fiscal year. The first deliveries will likely be sometime next winter or early spring just prior to the beginning of shakedown.

- Contract actions for the supply of acid and caustic have still not been initiated and won=t be until the shakedown picture becomes clearer. As previously stated, FETC will ensure that truck escorts are provided either through the supplier contract or by FETC, and will request deliveries to be made between 9-11 a.m. and 1-2 p.m.

"EDUCATORS IN THE WORKPLACE" SUMMARY

See attached presentation.

SYNOPSIZED QUESTIONS/COMMENTS FROM FRANK SAUS (4/12/99)
AND
SYNOPSIZED FETC RESPONSES

Source: This synopsis was prepared by FETC for the July 14, 1999, Community Interest Group (CIG) meeting. Full questions/comments and responses are in the May 7, 1999, letter from FETC to Frank Saus.

1. Is the Process Development Unit (PDU) flare similar to the Morgantown Utility Board (MUB) sewage treatment plant flare?
   Response: We don=t know specifics of the MUB flare and how it compares to the PDU flare. What we do know is that the PDU flare is designed to meet U.S. Environmental Protection Agency (EPA) requirements.

2. Will the PDU flare have enough heat buoyancy to raise the plume and disperse emissions?
   Response: Yes, the flare has significant heat release (up to 33 million Btu/hr) and good dispersion was shown by the PDU air permit modeling.

3. Will FETC neighbors smell hydrogen sulfide emissions from the PDU flare?
   Response: No, except perhaps briefly near the FETC fence line if the flare doesn=t light (unlikely) in a process upset requiring sudden diversion of syngas to the flare.

4. What is the source of Total Reduced Sulfur (TRS) cited on the West Virginia Office of Air Quality (WVOAQ) Fact Sheet but not in the permit itself, and will TRS emissions create detectable odors?
Response: TRS is unburned hydrogen sulfide from the PDU flare and was used by the WVOAQ to evaluate the PDU permit application. TRS doesn't appear in the PDU permit because the applicable State Regulation (Series 13) doesn't consider it. The odor concern is addressed in #3 since TRS is really just another way to express hydrogen sulfide.

5. Essentially a repeat of Question #3 concerning flare hydrogen sulfide emissions.
Response: See #3.

6. What is the PDU flare destruction efficiency of hydrogen sulfide? (Plus essentially a repeat of Question #3).
Response: 98% per U.S. EPA guidelines.

7. What is the anticipated composition and size of PDU flare particulates?
Response: Mostly soot (carbon), probably smaller than 1 micron in size.

8. Will the PDU incinerator plume clear a fog ceiling height of 2,000-2,500 feet? What reactions might occur in the fog?
Response: The incinerator plume will likely not clear 2,000 feet, but fog conditions cited should reasonably have occurred at times during the 5-year meteorological period used in PDU air permit modeling, and thus were considered in estimating emission impacts. Sulfur dioxide and hydrogen sulfide inevitably form weak acids in fogs, so regardless of PDU emissions, fogs are always slightly acidic because of background concentrations.

9. What is the direction of PDU plume travel in relation to the plume from the Morgantown Energy Associates (MEA) plant on Beechurst and do they overlap?
Response: We believe plume travel should generally be in the same direction and not overlap at any relevant distance from FETC and MEA. MEA emission impacts were accounted for in the ambient air background concentrations used by WVOAQ for the PDU air permit modeling.

10. Will PDU incinerator noise penetrate into the neighborhoods?
    Response: The incinerator will not violate Morgantown noise ordinance levels in the neighborhoods based upon sound measurements taken during incinerator commissioning.

11. What is the composition of particulates from the PDU incinerator stack?
    Response: The incinerator stack particulates will primarily be sorbent fines and are anticipated to have the same general composition as the sorbent in the process (i.e., a mixture of aluminosilicate, titanium oxide, and various proportions of zinc oxide, zinc sulfide, and zinc sulfate).

12. Are PDU particulate emissions smaller than 5 microns in size?
    Response: Yes, because the high efficiency filters used to limit potential particulate emissions remove everything 0.8 microns and up.

13. Would scaleup of PDU technology be impacted by new particulate emission standards?
    Response: Can=t just simply answer yes or no. Potential regulatory impact depends upon numerous factors, all of which would be considered in air modeling for any new commercial facility anywhere in the U.S.

14. Was PDU sulfur dioxide impact on landscape and crop plants considered?
    Response: Yes. PDU air permit modeling showed that PDU sulfur dioxide emissions would not violate secondary national ambient air quality standards (NAAQS), which are established to protect the environment.

15. Consider having a central contact phone number for the PDU.
    Response: Rodney Anderson (285-4709) was previously designated as the contact person for any concerns or questions regarding any FETC activities.

16. Concerns over the use of workplace standards to assess general public impact.
    Response: Comparison to workplace standards is the only recourse in the absence of standards developed for the general public. We are comfortable with these comparisons, especially since the predicted PDU maximum impacts were estimated conservatively and are still substantially below referenced standards.

QUESTIONS FROM LARRY SCHWAB (6/21/99)
AND
ABBREVIATED FETC RESPONSE

Source: This was prepared by FETC for the July 14, 1999, Community Interest Group (CIG) meeting. The full FETC response, which includes copies of the 5 previous FETC responses concerning this subject, is in the July 8, 1999, letter from FETC to Larry Schwab.

Dr. Schwab: Nickel carbonyl will be emitted from the planned syngas experimental plant to go on line autumn 1999. Please advise:

1. What specific plans does FETC have in place to monitor ambient nickel carbonyl at the stack?

2. What plans are there to monitor ambient air for nickel carbonyl in the Suncrest neighborhood?

3. What contingency plans are in place when nickel carbonyl at the stack or in ambient air reach levels which are measurable and toxic?

4. What is considered unsafe and/or toxic stack and ambient air nickel carbonyl concentrations?

5. How will information be disseminated to the public about nickel carbonyl toxicity and poisoning?

6. What are FETC plans to advise the public and medical community of the risks of nickel carbonyl and action to be taken when levels are dangerously high?

7. At what nickel carbonyl stack and ambient air concentrations will FETC syngas operations be suspended because of risk to humans?"

FETC response: Please be advised as follows:

a) Based on PDU process conditions and materials and the properties of nickel carbonyl, only extremely minute amounts of nickel carbonyl could form in the PDU.

b) If formed at all, the maximum concentration of nickel carbonyl inside the pressurized PDU reactors is estimated to be 0.01 parts per billion (ppb), which is only 1 percent of the occupational exposure limit. (Of course, humans are not inside the process equipment.)

c) At atmospheric pressure, nickel carbonyl readily decomposes at temperatures around 500°F, which is the basis of a commercial nickel refining process.

d) If any nickel carbonyl were to form in the pressurized PDU reactors, it would readily decompose in the PDU incinerator, which operates at atmospheric pressure and at least 1,000°F hotter than the decomposition temperature used commercially.

e) The maximum concentration of nickel carbonyl in the incinerator exhaust is estimated to be only $7x10^{-20}$ ppb. Expressed as a decimal, this is a 7 preceded by 28 zeros: 0.00000000000000000000000000007

f) There are no known methods to detect such infinitesimal concentrations in the incinerator stack, let alone in the neighborhood ambient air where the concentration would be orders of magnitude lower.

g) To put such an extremely minuscule concentration into perspective, the PDU would have to operate **85 billion years** before a total of only **1 microgram** (one millionth of a gram, or 0.000001 gram) would be emitted from the incinerator stack. This is the basis for our previous statements that Anone@ would be emitted.

These assessments lead us to the conclusion that nickel carbonyl is not a concern, and no further attention is warranted.

Also, please be advised that the PDU is not expected to begin any operations until spring 2000.

OPEN FORUM

There were no items for discussion.

DEVELOP NEXT AGENDA

- FETC Process Development Unit (PDU) and Trucking Update
- Summary Report of recent stakeholder survey as pertains to local community members